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MODERN SCIENCE

AND

ANCIENT FAITH

BY THE
REV. JOHN GERARD, S.J.



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MODERN SCIENCE AND ANCIENT FAITH.¹

BY THE REV. JOHN GERARD, S.J.

THERE can be no doubt that many minds are sorely distressed by what is termed the conflict between Science and Faith. Beyond all else, this is pre-eminently the age of scientific discovery: of this characteristic we are proud, and most justly proud. Never before have men pried so far into the secrets of nature; never has the human mind exhibited itself so triumphantly as the most marvellous of all the forces within the range of our experience, by forcing all others to yield up their secrets and reveal their operations, or even to perform those operations at man's bidding and for the fulfilment of his purposes. And when with each advance of knowledge it is strenuously proclaimed by a

¹ A paper read at the Catholic Conference at Hanley, September 30, 1896.

host of writers, that one more death-blow has been dealt not only to Christianity but to all belief in the supernatural, and that unless we choose to shut our eyes against the light now streaming in upon us, we must be content to recognize ourselves but as creatures of a day, called into being by blind natural forces and inevitably destined to sink again into the abyss whence we have come, "melting like streaks of morning mist into the infinite azure of the past"—that there is no such thing as a fatherly Providence watching over us, and no hereafter in which we may hope to reap a harvest that shall not decay—when, I say, we hear this new gospel of misery put forth in the name of Science, as it is every day, there can be no doubt as to the gravity of the question which is raised, nor can we wonder at the disquiet and anxiety which is so widely engendered. If it be true that increase of human knowledge contradicts the beliefs we have been accustomed to cherish, if the discoveries we are able to make by means of our natural faculties, are in reality incompatible with the foundations of our faith, then undoubtedly the most formidable obstacle the world has ever seen is set up to hinder men from believing.

But *is* all this true? That is the question we

have now to discuss, and as a contribution to such discussion I can attempt no more, within the limits to which I must confine myself, than briefly to recapitulate a few of the chief reasons which show that the assumptions with which we are confronted, are not only untrue, but the reverse of the truth; that the case of our opponents rests upon arguments not only invalid but preposterous.

And here I would remark that, as it seems to me, the champions of our own party are often to blame for the line they adopt. While the apostles of unbelief are loud-mouthed and confident, laying down with assurance what they declare to be the law, the defenders of orthodoxy are too often either timid and apologetical, or strenuous in the wrong way—exhibiting their want of acquaintance with the true nature of the teachings they undertake to refute. In either case much harm is done. The impression is produced that we can meet our antagonists only by misrepresenting them, and that if we venture to look them fairly in the face we are inevitably forced to make a pitiable display of our impotence, and have to content ourselves with a feeble attempt to show that after all the case against us is not absolutely proved, but that some loophole of escape may yet be found.

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This is not the temper which is likely to vindicate the ways of God to man. The invisible, as He Himself tells us, is made known to us by the visible, and the more we understand of the world whereof our senses can take cognizance, the more should we learn of Him who made it what it is, the more should we be drawn to mount from nature up to nature's God. And such, without question, is the fact.

Coming now to the matter itself, it is in the first place to be observed, that although, as I have said, the number of those is legion who undertake to speak in the name of Science, and interpret her lessons in a sense contrary to Faith, they are not as a rule entitled to the character they assume. It is the popular "scientist," to borrow the hideous title he has invented, unencumbered with sound knowledge, who finds all plain and easy where men far greater than he find mystery, who scatters abroad his crude and random infidelity with the reckless assurance which ignorance begets. When we turn to those who have the best right to speak, we find, in general, a very different tone. I need not dwell on the opinion of the greatest of scientific discoverers, Sir Isaac Newton, who declared that natural philosophy without God was an impossibility; for he lived two centuries

ago, and our self-sufficient generation might therefore decline to accept him as a witness. But Lord Kelvin is still with us, and has not he declared that "overpowering proofs of intelligence and benevolent design lie around us, showing us through nature the influence of a free will, and teaching us that all living beings depend upon one ever-acting Creator and Ruler"? Another of its Presidents, Sir William Siemens, likewise told the British Association that "all knowledge must lead up to one great result, an intelligent recognition of the Creator through His works." "We assume as absolutely self-evident," wrote Professors Stewart and Tait, "the existence of a Deity, who is the Creator and Ruler of all things." In a like sense speak Faraday, Clerk-Maxwell, Sir John Herschel, Sir Gabriel Stokes, Sir Joseph Dawson, to name but a few of those who—none will be bold enough to deny—stand in the very front rank of modern science.

So much for authority. When we turn to scrutinize the subject itself, this must strike us in the first place. The main point upon which the so-called rationalistic argument is based, is that experimental science is not able, by the methods in which it deals, to discover what must be, if it exists at all, altogether beyond its scope, and would be absolutely discredited

if it could be so discovered. Science deals with the forces and properties of matter ; what is not material it cannot touch. But no one ever imagined that God or the soul of man are anything material. On the contrary, if we could see them or touch them, if we could weigh them in a balance, or detect them in a test-tube, or affect them with a battery, they would be thereby shown not to be what we believe them. Accordingly, to say that because Science—meaning by that term experimental science—has nothing to report concerning them, therefore they do not exist, is like saying that there is no beauty in the poems of Shakespeare because chemistry fails to discover it, or in Westminster Abbey because though we examine its stones and timbers with the most powerful of microscopes we shall see nothing of it.

This leads naturally to another reflection. Science, as I have said, is justly proud of the advances she has made in recent years, and it is in the name of these her triumphs that the claim is advanced on her behalf to be the supreme instructress of man as to all which it is possible to know. But although, without doubt, the field of our knowledge appears very wide when we compare it with that of former ages, it is altogether paltry and insignificant in

comparison with our ignorance. To hear some men talk we might imagine that we have now sounded the depths of the universe, traced all effects to their causes, and torn aside every veil which shrouded the operations of Nature, forcing her to disclose to us the secrets she most jealously guarded. As a matter of fact we are still, to use Sir Isaac Newton's well-known simile, like little children picking up shells on the shore of the ocean. It may have receded a little more for us than for our ancestors, and enabled us to find some brilliant objects which they could not ; but for us as for them its impenetrable depths defy all scrutiny. Nor only this. It may be said with absolute truth that what discoveries we have been enabled to make do but intensify the mystery which lies beyond, and each scrap of knowledge we are able to glean brings with it fresh and perplexing problems which we are utterly unable to solve. To say that modern research has eliminated mystery from nature, is like saying that the telescope has done away with the wonders of the heavens. As an example, we may consider the ultimate elements of which the material universe is composed. In old days it was supposed that there were but four elements—earth, air, fire, and water. Now we have dis-

covered that, in round numbers, there are about eighty. Have we therefore removed all mystery? It would be more true to say that we have multiplied it twenty-fold. We know something of the behaviour in certain circumstances of the atoms into which these various elements are ultimately resolvable, but beyond this we know nothing. As Lord Salisbury put it in his presidential address to the British Association two years ago: "What the atom of each element is; whether it is a movement, or a thing, or a vortex, or a point having inertia; whether there is any limit to its divisibility, and, if so, how that limit is imposed; whether the long list of elements is final, or whether any of them have any common origin—all these questions remain surrounded by a darkness as profound as ever."

As to the causes of things, Science has never discovered one. She has doubtless followed up the chain of inter-dependent phenomena, of which we frequently speak as causes and effects, to a point higher than has ever been done before; but at whatever point she is forced to relinquish her scrutiny, the problem of the true cause remains inscrutable as ever. Of what discovery are we so proud as of Newton's great law of gravitation? Old philosophers knew as well as we that a stone will fall if it be dropped,

and they explained the phenomenon by declaring that every body naturally tends to the centre of its own sphere. We know better, and call such an explanation no explanation at all. It is the attraction of the earth, we say, which explains it all, for according to the formula which we learn at school, every material substance attracts every other with a force proportional directly to its mass, and inversely to the square of the distance. No doubt this is a great advance on the old philosophy; but are we, after all, very much nearer to the root of the matter? Why do bodies so attract one another? And how? By what means is the attraction conveyed? What is it? How is it that the pull of the earth beneath my feet, upon the roof above my head, passes through my body, and yet I am not conscious of it? The pull of the earth upon myself I feel—it is what I call my weight—but not that exerted upon other substances. So manifold are the difficulties with which this subject is surrounded, that Sir John Herschel termed that force of gravitation, of which we speak so familiarly, the “mystery of mysteries,” and Faraday thought the great law a paradox. Yet even were our ideas concerning its operation far in advance of what they are, it would still remain true that we have not arrived at the

ultimate cause which can account for so familiar a phenomenon as the falling of a stone or of an apple, till we have discovered what or who it is that made that which makes it fall.

In connection with this topic it is well to remember that what Science can do is to discover "laws," and this is only another name for facts. Recently, for instance, we have been astounded to learn that there are rays of some kind, called X rays because we know nothing of their nature except that they are neither light-rays nor heat-rays, which can penetrate our flesh and reveal our skeletons. That is to say, we have just found out something in nature which has always been there without our knowing it. But too often it seems to be assumed that our achievements are far more important. Of a recent eminent man of science it was said, that having detected a certain substance and called it "protoplasm," he seemed to fancy, because he had invented the name, he had therefore created the thing. Science can but record what she finds in operation. She admires, and bids us admire, the laws she is able to trace. But these are not of her making, and though she may unquestionably claim high honour for the skill with which they have been investigated, we must endorse the sentiment expressed by Diderot--Is the formation of the universe

a less proof of intelligence than its explanation?

These are a few of the considerations which present themselves on the very threshold of our inquiry. Bearing them in mind, we may proceed to another point which will conveniently serve to illustrate our subject in the compendious manner which such an occasion as this requires.

It has been said that the first three words of the Bible convey three fundamental ideas, which we shall seek in vain in the writings of philosophers however profound, whose natural powers were not illumined by revelation. "In the beginning, God created." The idea of a beginning, before which the things we know by our senses did not exist; of a Supreme Being who had no beginning, who was, when the heavens and the earth were not; and of the act of creation, the calling of the universe out of nothing, at the will and by the power of Him who alone had His being of Himself. Here is the foundation-stone of all supernatural belief—not of Christianity alone, but of Theism itself. What, let us ask, is the witness of Science upon each of these all-important points?

And first as to the beginning. If there is anything which is proved by modern philosophy beyond all question, it is that such a beginning

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there must have been. On such a point no exception can be taken to the evidence of the late Professor Huxley, and he emphatically declares that the phenomena with which astronomy deals, demonstrate by their very nature that they cannot have existed for ever. More than this. The law of the conservation and dissipation of energy, one of the greatest discoveries of our times, clearly proves that in its beginning the universe was in a condition to which its own forces could never have brought it, one from which, on the contrary, they can only more and more remove it. It was, in brief, like a clock wound up ; the weights when left to themselves run down, and in doing so set the various parts of the mechanism in motion. But the more work they do the less power of doing work remains ; and once they reach their lowest point all work is over, unless a power altogether different from theirs should intervene to replace them in their first position. Even so with the forces of the universe : they are ever spending their power of work, never adding to it—motion, heat, electricity, all the forms of energy with which nature is endowed, are constantly approaching their inevitable term." As Mr. Balfour has expressed it, "We sound the future, and learn that after a period, long compared with

the individual life, but short indeed compared with the divisions of time open to our investigation, the energies of our system will decay, the glory of the sun will be dimmed, and the earth, tideless and inert, will no longer tolerate the race which has for a moment disturbed its solitude." This, then, is the verdict of Science : that there was a beginning, and that for it no force whereof she takes cognizance can account.

But if so, she necessarily leads us on to the consideration of a Being beyond her ken, who alone could make that beginning possible ; who could construct the clock and wind it, and determine the order of its going ; who is not subject to the laws inexorably governing material things, but, existing for ever, does not grow old, nor part with any fragment of His power, and from whose plenitude alone can Nature have received these forces which make her what she is. The conception of such a Being, as Sir Isaac Newton has told us, is a necessary part of natural philosophy, and so far from this necessity being disproved by recent research, it may be said, with the late Bishop of Carlisle, that by the establishment of the laws of energy Atheism has been rendered "unscientific."

As to "creation," the question appears to be already answered. The calling into being

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of a universe which was not, and could not otherwise have been, *is* Creation. It need only be observed that here is the point at which infidel science always breaks down, and inevitably must do so. It will not, because it dare not, face the starting-point. It treats nature as a "going concern." From the course of events observed in the past, it argues to what may be anticipated in the future; and this it styles "philosophy," altogether ignoring the obvious consideration that the past, no less than the future, requires to be accounted for. As a conspicuous illustration of this method of dealing with the question, we may cite that doctrine of evolution of which we hear so much. Of that doctrine this is not the place to speak in detail. We cannot stay to inquire whether, as a matter of fact, the history of organic life, as we know it, is in accordance with evolutionary hypotheses—which such a geologist as Sir Joseph Dawson, and such a botanist as Mr. Carruthers, absolutely deny—nor can we spare time to examine the ambiguity of evolutionist terminology, and the consequent difficulty of determining what exactly is maintained. Let all be as its champions say it is. Let it be granted that one species of plants and animals has been evolved from another species, according to some law. Is

it not obvious that we must start with something which is to evolve, and that it must be capable of evolving? Whence came the thing, and whence the capability? The language of many so-called scientific writers might lead us to believe that the law of evolution, as Science has been able to ascertain it, is capable of explaining the origin of life as well as its developments. Nothing could be more erroneous. As to development, Science can offer a few conjectures, more or less plausible, but as to the origin of life she has to confess that she knows absolutely nothing. As Professor Tait writes: "To say that even the very lowest form of life can be fully explained on physical principles alone, is simply unscientific. There is absolutely nothing known in physical science which can lend the slightest support to such an idea." In fact, just as Science bears witness that the Universe must have had a beginning, so with equal emphasis she declares that, within the sphere of her observation, life can be derived only from a living parent. How far does this take us towards a solution of the great problem of its origin? Hens doubtless come from eggs, and likewise eggs from hens. But what of the beginning? Did the first hen come out of an egg that never was laid? Or was the first egg laid by a hen that never was hatched? One or the other we

must say ; and not till we have adequately accounted for the existence of the primordial germ, endowed with the mysterious potencies of life, have we done anything to elucidate the great problem of the origin of all things.

Here is the mystery which true Science must discern beneath the surface of every object which meets her view. As Tennyson has sung :—

“ Flower in the crannied wall,
I pluck you out of the crannies ;
Hold you root and all in my hand ;
Little flower, but if I could understand
What you are, root and all, and all in all,
I should know what God and man is.”

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